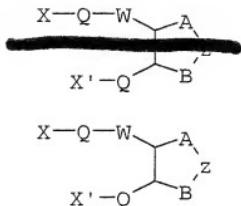


IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

Claims 1-40 (canceled)

41. (currently amended) A protein-polymer conjugate of formula I



wherein X is a homo- or co-polymer selected from the group consisting of polyalkylene glycols, polyvinylpyrrolidones, polyacrylates, polymethacrylates, polyoxazolines, polyvinylalcohols, polyacrylamides, polymethacrylamides, HPMAs copolymers, polyesters, polyacetals, poly(ortho ester)s, polycarbonates, poly(imino carbonate)s, polyamides, copolymers of divinylether-maleic anhydride and styrene-maleic anhydride, polysaccharides, and polyglutamic acids;

Q is a linking group selected from the group consisting of a direct bond, alkynes, optionally-substituted aryls, and optionally-substituted heteroaryls, wherein the alkyne, aryl, or heteroaryl may be terminated or interrupted by one or more oxygen atoms, sulphur atoms, keto groups, -O-CO- groups, -CO-O- groups, or -NR groups in which R is an alkyl or aryl group;

W is selected from the group consisting of a keto group, an ester group, a sulphone group, a reduced keto group, a reduced ester group, and a reduced sulphone group;

X'-Q is hydrogen;

A is a C₁₋₅ alkyne or alkenyne chain;

B is a bond or a C₁₋₄ alkyne or alkenyne chain; and

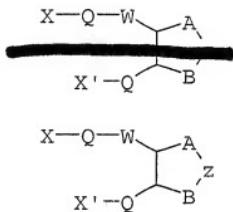
Z is a single protein linked to A and B via two thiol groups generated by reduction of a disulfide bridge in the protein.

42. (previously presented) The protein-polymer conjugate of claim 41, wherein X is a polyethylene glycol.

43. (previously presented) A pharmaceutical composition comprising the protein-polymer conjugate of claim 41, together with a pharmaceutically acceptable carrier.

44. (previously presented) A pharmaceutical composition comprising the protein-polymer conjugate of claim 42, together with a pharmaceutically acceptable carrier.

45. (currently amended) A process for preparing a protein-polymer conjugate of formula I



wherein X is a homo- or co-polymer selected from the group consisting of polyalkylene glycols, polyvinylpyrrolidones, polyacrylates, polymethacrylates, polyoxazolines, polyvinylalcohols, polyacrylamides, polymethacrylamides, HPMAs copolymers, polyesters, polyacetals, poly(ortho ester)s, polycarbonates, poly(imino carbonate)s, polyamides, copolymers of divinylether-maleic anhydride and styrene-maleic anhydride, polysaccharides, and polyglutamic acids;

Q is a linking group selected from the group consisting of a direct bond, alkynes, optionally-substituted aryls, and optionally-substituted heteroaryls, wherein the alkylene, aryl, or heteroaryl may be terminated or interrupted by one or more oxygen

atoms, sulphur atoms, keto groups, -O-CO- groups, -CO-O- groups, or -NR groups in which R is an alkyl or aryl group;

W is selected from the group consisting of a keto group, an ester group, a sulphone group, a reduced keto group, a reduced ester group, and a reduced sulphone group;

X'-Q is hydrogen;

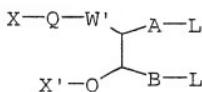
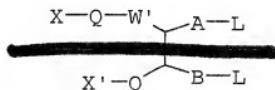
A is a C₁₋₅ alkylene or alkenylene chain;

B is a bond or a C₁₋₄ alkylene or alkenylene chain; and

Z is a single protein linked to A and B via two thiol groups generated by reduction of a disulfide bridge in the protein;

wherein the process comprises:

- (a) reducing a disulfide bridge in the protein and
- (b) reacting the reduced protein with a compound of formula II



wherein X, Q, A, B and X'-Q are defined as above;

W' is an electron-withdrawing moiety selected from the group consisting of a keto group, an ester group, and a sulphone group; and

L is independently selected from the group consisting of -SR, -SO₂R, -OSO₂R, -N⁺R₃, -N⁺HR₂, -N⁺H₂R, halogen, and -OØ, wherein R is an alkyl or aryl group and Ø is a substituted aryl group containing at least one electron-withdrawing group.

46. (currently amended) The process of claim [[53]] 45, wherein X is a polyethylene glycol.

47. (currently amended) The process of claim [[53]] 45 further comprising reducing W' to produce a protein-polymer conjugate of formula I in which W is selected from the group consisting of a reduced keto group, a reduced ester group, and a reduced sulphone group.

48. (previously presented) The process of claim 47, wherein X is a polyethylene glycol.